



Supporting Technology Transfer and  
Catalyzing Economic Development  
at the University of New Mexico

# Prior Art Searching for Your Business and Technology

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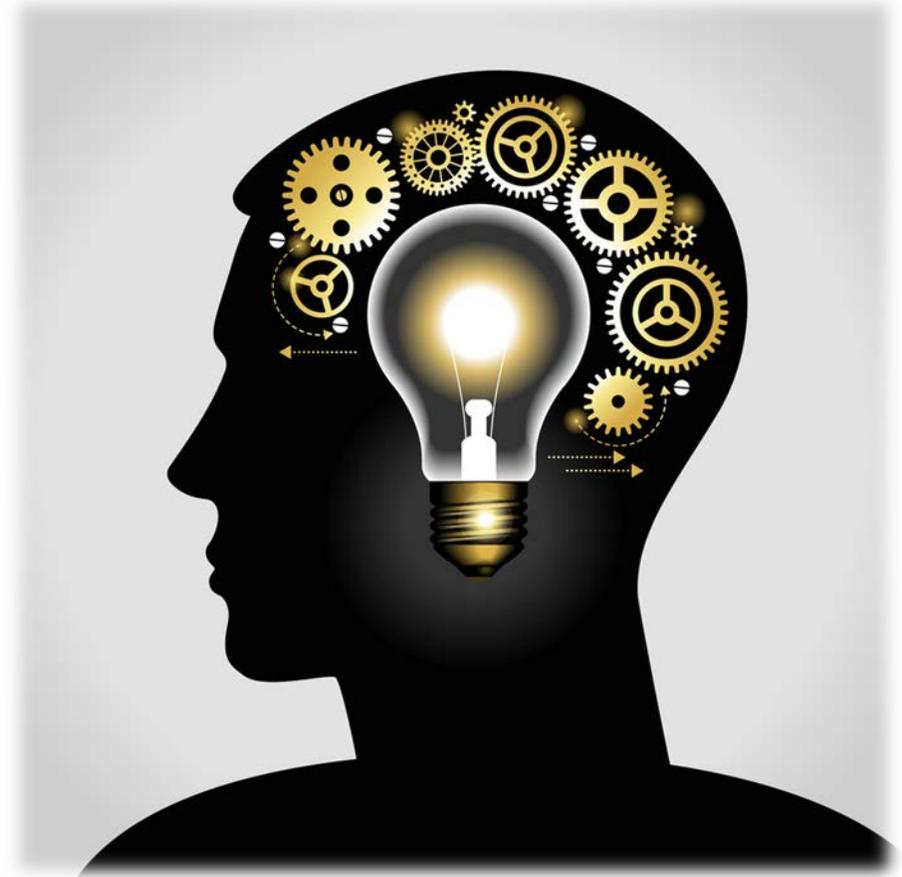
# INTELLECTUAL PROPERTY

❖ Patents

❖ Trademarks <sup>®</sup> TM 

❖ Copyrights ©

❖ Trade Secrets



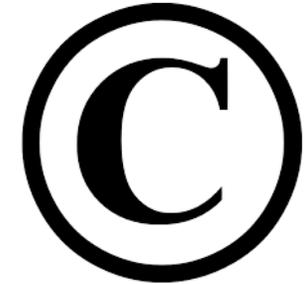
# Trademarks

- Any word, name, symbol or device or combination thereof used to identify the source of goods or services and to distinguish the goods or services from those of others.



# Copyrights

- **A creator’s rights in “original works of authorship” that are fixed in a tangible form of expression.**
  - Copyrights are protected by federal law under the Copyright Act (17 U.S.C.).
    - Copyrights may be registered with the Copyright Office of the Library of Congress.
    - Protection in other countries is usually automatic without additional filing required.
  - Works are protected from the moment of creation and last for the life of the creator plus 70 years.
  - Works “made for hire” and anonymous works have a term of 95 years from the date of publication or 120 years from the date of creation, whichever is shorter.



# Trade Secrets

- **Information that is sufficiently secret to derive economic value from not being generally known and is the subject of reasonable efforts to maintain its secrecy.**
  - Trade Secrets are protected by common law, state statutes and contract law in the U.S. and in most other countries (no registration is available).
  - Trade secrets are protectable as long as secrecy is maintained.
- Trade secrets (in most states) may consist of any idea, process, formula, pattern, physical device, or compilation of information that satisfies both of the following criteria:
  - Provides a competitive advantage to the owner in the marketplace
  - Protected by the owner from others, absent improper acquisition or theft
- Examples of trade secrets
  - Beverage formulas
  - Recipes
  - New Inventions not patented
  - Strategies
  - Manufacturing techniques
  - Computer algorithms



# Patents

- **Utility Patent**

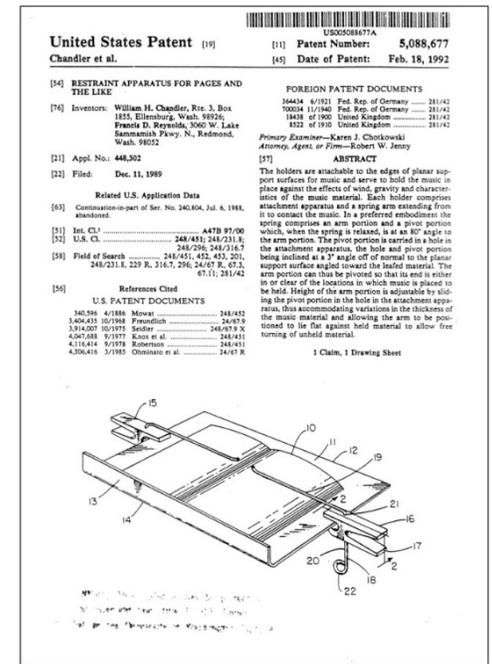
- new and useful processes, machines, manufactures and compositions of matter
  - Novel
  - Non-Obvious

- **Design Patent**

- new designs for an article of manufacture

- **Plant Patent**

- distinct and new asexually reproduced plants



U.S. Patent Jun. 22, 2010 Sheet 1 of 5 US D618,204 S



FIG. 1



FIG. 2

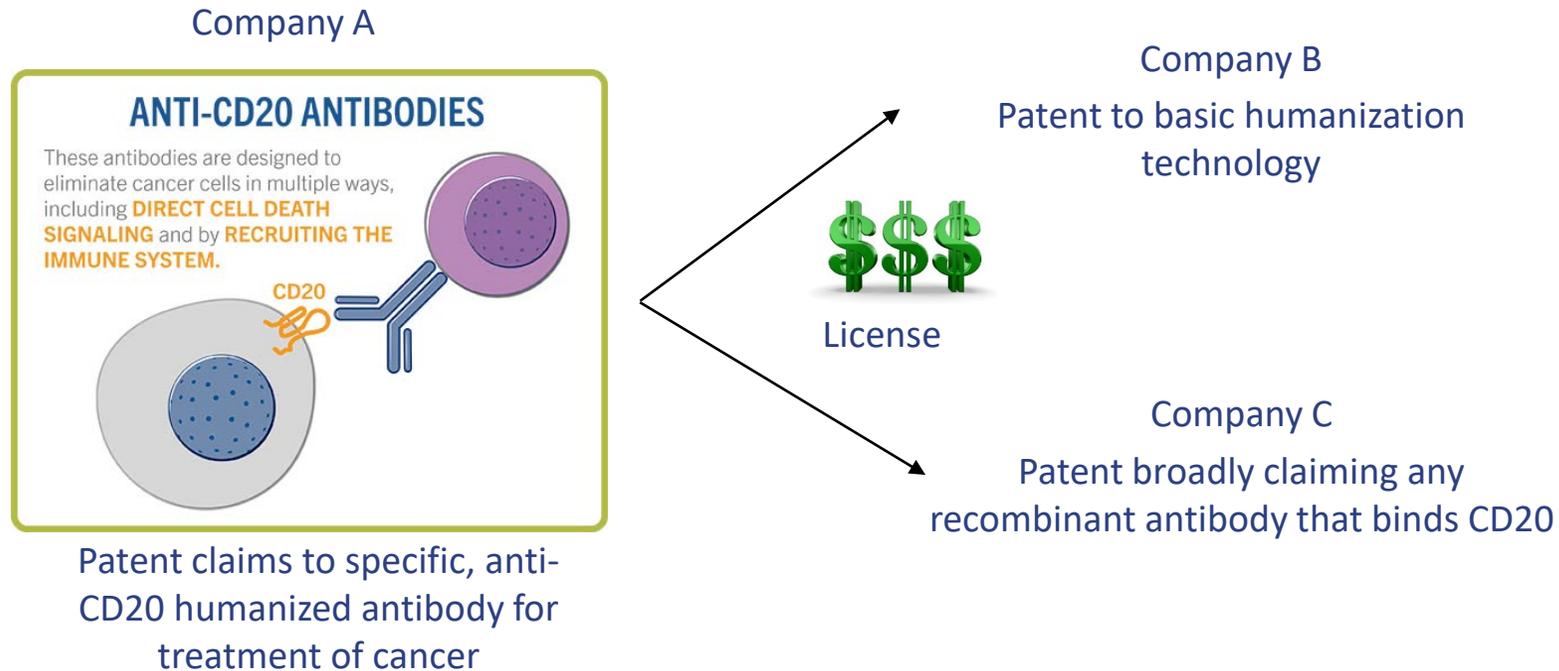


# What rights does a patent provide?

The **right to exclude others** from making, using, selling, or importing the patented invention for a limited time (limited monopoly- **20 years** from filing date)



# A Patent Does Not Give the Rights to Make, Use or Sell an Invention



Blocking/dominating patents

Freedom to Operate

# Statutory Patent Requirements (35 U.S.C. §101) Eligible Subject Matter

- ▶ Must be directed to patent eligible subject matter
  - Processes, Machines, Manufactures, Compositions-of-Matter, and Improvements
  - “Anything under the sun made by man”
    - Diamond v Chakrabarty 447 U.S. 303 (1980)- genetically engineered bacteria
  - Not eligible- Judicial exceptions
    - Laws of Nature, Natural phenomenon, and abstract ideas
    - Recent SCOTUS rulings have limited eligible subject matter particularly in Life Sciences (natural phenomenon) and Software/Business methods (abstract ideas)
- ▶ Must have credible utility
- ▶ World has different standards to evaluate this

## Manual of PATENT EXAMINING PROCEDURE

Original Eighth Edition, August 2001  
Latest Revision July 2008



U.S. DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office



(19) **United States**  
(12) **Patent Application Publication** (10) **Pub. No.: US 2003/0114313 A1**  
Worsley et al. (43) **Pub. Date: Jun. 19, 2003**

(54) **TECHNICAL AND THEORETICAL SPECIFICATIONS FOR WARP DRIVE TECHNOLOGY** (30) **Foreign Application Priority Data**  
Jan. 31, 2000 (GB) 0002221.0  
Nov. 24, 2000 (GB) 0028721.9

(76) **Inventors: Andrew Peter Worsley, Keat (GB); Peter John Twist, Tortola (GB)** (51) **Int. Cl.<sup>7</sup> H01S 1/00**  
(52) **U.S. CL. 505/180**

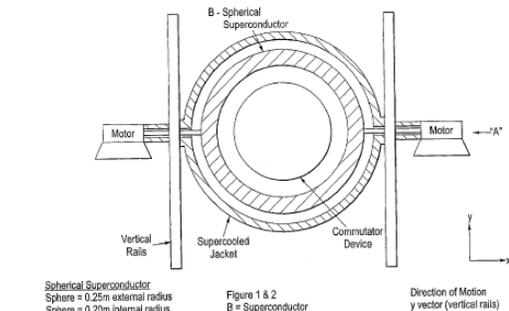
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(21) **Appl. No.: 10/182,373**

(22) **PCT Filed: Jan. 30, 2001**

(86) **PCT No.: PCT/GB01/00381**

**ABSTRACT**  
The present invention relates to the use of technical drive systems, which operate by the modification of gravitational fields. These drive systems do not depend on the emission of matter to create thrust but create a change in the curvature of space-time, in accordance with general relativity. This allows travel by warping space-time to produce an independent warp drive system. Differentials electron flow through a body in rotation is directed so as to simultaneously pass through a said body in its direction of



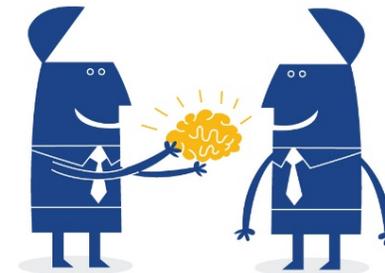
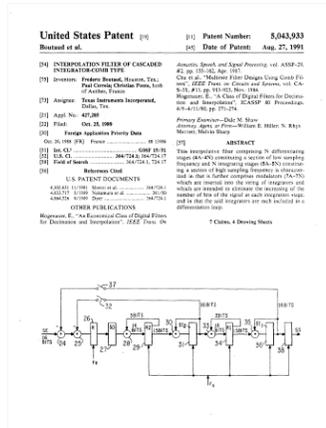
# Statutory Patent Requirements (35 U.S.C. §112)

- Must teach and adequately describe the invention
  - **Enablement**- Person having ordinary skill in the art (PHOSITA) can make and use your invention
  - **Written Description**- Support for all claims in the specification
    - Shows you actually invented what you claimed to invent
  - Important to be able to support possible future claim amendments
    - Want to cover ways competitors may try to get around your patent

# Statutory Patent Requirements

## 35 U.S.C. §102 Novelty

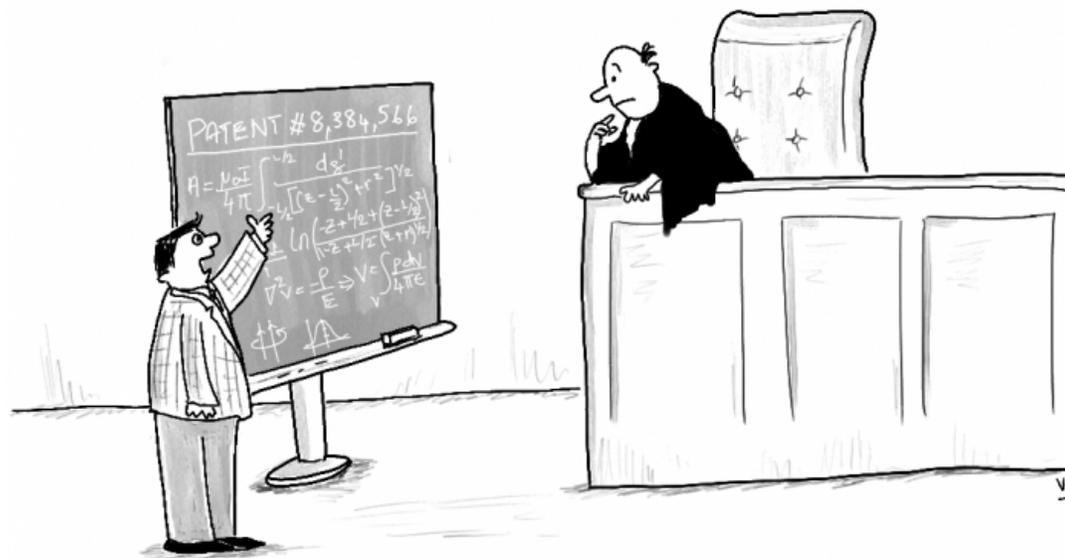
- Must be novel
  - Not publicly known (Prior Art)
  - E.g. publications, patents, patent applications, in public use, for sale, offered for sale. Europe has more general definition. US changed for public use to include entire world
  - Inherency- discovering a new property of known art does not make it patentable- the property is inherent



# Statutory Patent Requirements

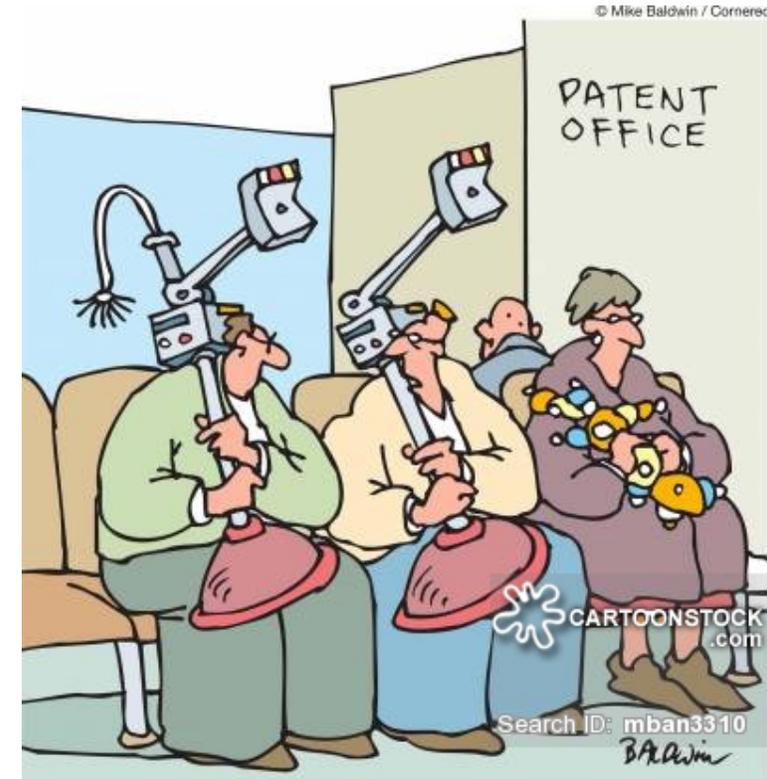
## 35 U.S.C. §103 Obviousness

- Must be non-obvious (35 U.S.C. §103)
  - Can't simply combine two or more references to come up with invention
  - Requires “inventive step”



"So you see your honor, it's obvious."

© Legally Drawn & Vasanth Sarathy, 2009



"Mine does the exact same thing – but without the tassel."

(12) **United States Patent**  
Eden et al.

(10) **Patent No.:** US 8,004,017 B2  
(45) **Date of Patent:** Aug. 23, 2011

**Application publication**  
**Number**  
**US20130228203A1**

(54) **BURIED CIRCUMFERENTIAL ELECTRODE MICROCAVITY PLASMA DEVICE ARRAYS, ELECTRICAL INTERCONNECTS, AND FORMATION METHOD**

OTHER PUBLICATIONS

J. G. Eden, et al., "Microplasma Devices Fabricated in Silicon, Ceramic, and Metal/Polymer Structures: Arrays, Emitters and Photodetectors", *Journal of Physics D: Applied Physics*, vol. 36, 2003, pp. 2869-2877.

(Continued)

*Primary Examiner* — Zandra Smith  
*Assistant Examiner* — Pamela E Perkins

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Owner →

(73) Assignee: **The Board of Trustees of the University of Illinois**, Urbana, IL (US)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 782 days.

Application # →

(21) Appl. No.: 11/880,698

(22) Filed: **Jul. 24, 2007**

(65) **Prior Publication Data**  
US 2008/0185579 A1 Aug. 7, 2008

**Related U.S. Application Data**

Priority document/date →

(60) Provisional application No. 60/833,405, filed on Jul. 26, 2006.

Classification codes →

(51) **Int. Cl.**  
*H01J 17/04* (2006.01)  
*H01J 17/49* (2006.01)

(52) **U.S. Cl.** ..... 257/211; 313/582; 313/584; 313/631

(58) **Field of Classification Search** ..... None  
See application file for complete search history.

References cited

\* By examiner →

(56) **References Cited**  
U.S. PATENT DOCUMENTS  
5,441,627 A 8/1995 Kato et al.  
6,016,027 A 1/2000 DeTemple et al.  
6,139,384 A 10/2000 DeTemple et al.  
(Continued)

(57) **ABSTRACT**

A preferred embodiment microcavity plasma device array of the invention includes a plurality of first metal circumferential metal electrodes that surround microcavities in the device. The first circumferential electrodes are buried in a metal oxide layer and surround the microcavities in a plane transverse to the microcavity axis, while being protected from plasma in the microcavities by the metal oxide. In embodiments of the invention, the circumferential electrodes can be connected in patterns. A second electrode(s) is arranged so as to be isolated from said first electrodes by said first metal oxide layer. In some embodiments, the second electrode(s) is in a second layer, and in other embodiments the second electrode(s) is also within the first metal oxide layer. A containing layer, e.g., a thin layer of glass, quartz, or plastic, seals the discharge medium (plasma) into the microcavities. In a preferred method of formation embodiment, a metal foil or film is obtained or formed with micro-holes. The foil is anodized to form metal oxide. One or more self-patterned metal electrodes are automatically formed and buried in the metal oxide created by the anodization process. The electrodes form in a closed circumference around each microcavity in a plane(s) transverse to the microcavity axis, and can be electrically isolated or connected. Preferred embodiments provide inexpensive microplasma device electrode structures and a fabrication method for realizing microplasma arrays that are light-weight and scalable to large areas. Electrodes buried in metal oxide and complex patterns of electrodes can also be formed without reference to microplasma devices—that is, for general electrical circuitry.

18 Claims, 10 Drawing Sheets

# Parts of a Patent

## Drawings

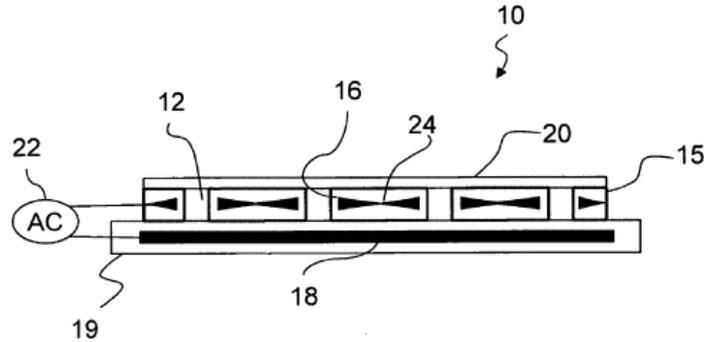


FIG. 1

## Specification

Bulk of patent describing invention to support the claims and 112 requirement

## Claims

The invention claimed is:

1. A microcavity plasma device array, comprising:  
a plurality of microcavities defined in a first metal oxide layer;  
circumferential first metal electrodes buried in said metal oxide layer and surrounding individual ones of said plurality of microcavities;

a second electrode separated from said first electrodes by said first metal oxide layer discharge medium within the plurality of microcavities; and  
a containing layer containing the discharge medium in the plurality of microcavities.

2. The array of claim 1, wherein said second electrode comprises a second layer arranged proximately to said first metal oxide layer and said first metal oxide layer and said second layer are sufficiently thin to permit the array to be flexible.

3. The array of claim 2, wherein said second layer comprises a second oxide layer and said second electrode comprises a plurality of second circumferential metal electrodes buried within said second oxide layer.

4. The array of claim 3, wherein said plurality of second electrodes comprise buried circumferential electrodes that surround microcavities defined in said second oxide layer.

5. The array of claim 3, wherein said first and second electrodes comprise aluminum and said metal oxide and said oxide comprise aluminum oxide.

# Claims- Laying Out Your Property Lines

**Your own work can be prior art**

Science

Complex Systems and Networks

United States Patent 7,848,533

Patent Number: 7,848,533  
Date of Patent: Aug. 27, 2005

41°53'28.25" N 76°32'42.42" W

Department of Conservation and Natural Resources-PAMAP/US

Apr. 9, 2005

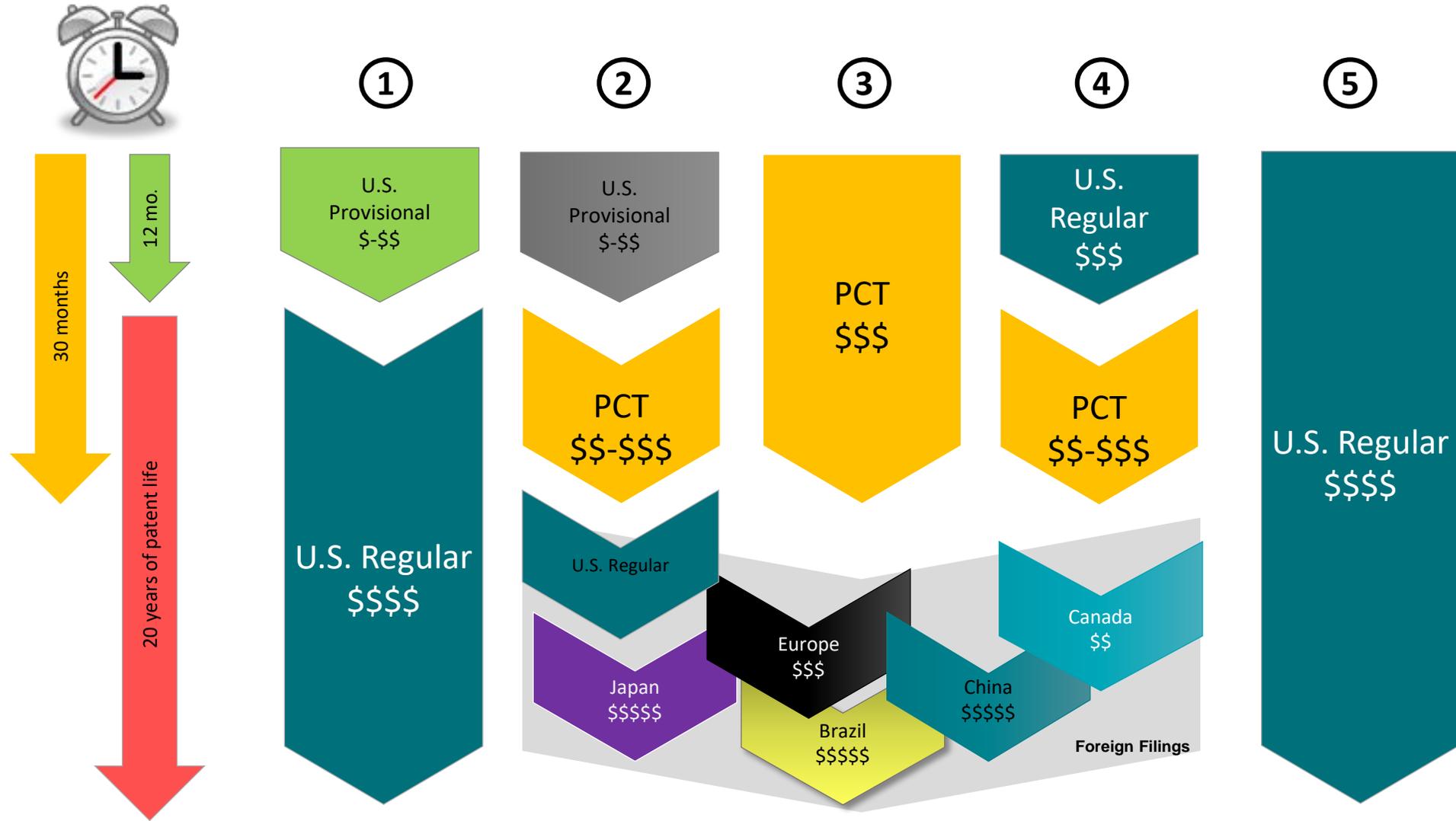
Eye alt 1.70 km

Google

© 2009 Tele Atlas

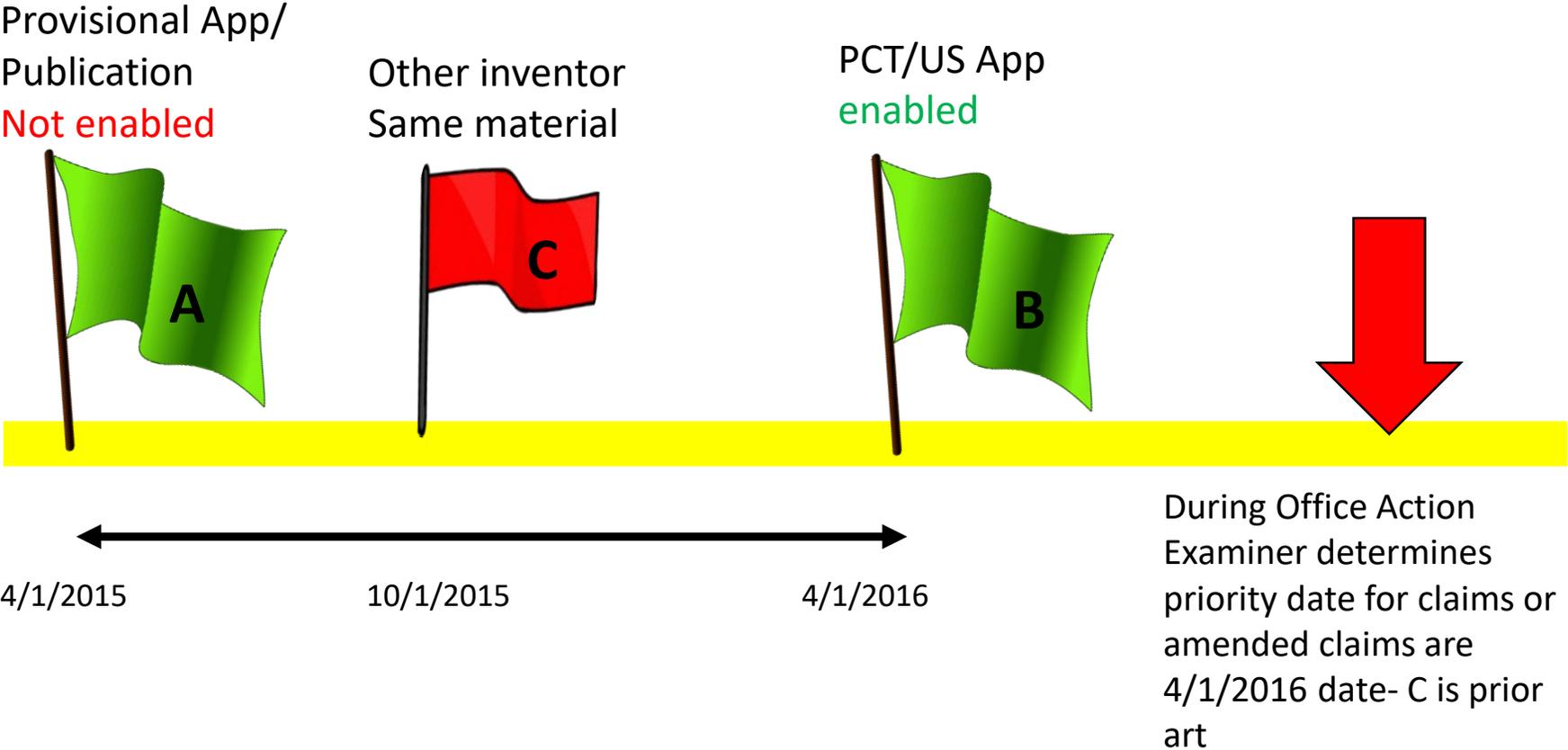
The image is a composite of several elements overlaid on a Google Earth aerial view of a rural area with a road labeled 'Laurel Hill Rd'. A red polygon outlines a specific property boundary. In the center, a woman with glasses and a pink shirt looks surprised, with her hand to her mouth. To her left, a blue box contains the text 'Your own work can be prior art'. Above her is a 'Science' journal cover featuring a network diagram. To the right is a snippet of a 'United States Patent' document, including a table with columns for 'Patent Number' and 'Date of Patent', and a section for 'Abstract'. Below the patent is a circuit diagram. To the left of the woman are three icons: two 3D figures shaking hands, a stack of books, and two blue robot-like figures exchanging a glowing object. At the bottom right, a red 3D figure stands at a podium. The bottom of the image shows Google Earth metadata: coordinates (41°53'28.25" N, 76°32'42.42" W), date (Apr. 9, 2005), altitude (Eye alt 1.70 km), and the Google logo.

# Patent Filing Options



Continuation/Divisional Applications

# Establishing Priority- Staking Claim to your Invention



# Patenting Process

1. Patent application drafting (Costs: \$1000 to \$15,000)
  - Collaboration between patent practitioner and inventor(s)
2. Patent application prosecution (Costs: about \$2000-\$10,000)
  - USPTO examiner completes review of claims and search of **prior art** and issues an “office action”
  - Iterative process and generally requires concession of claim scope by the applicant in view of the prior art
  - Average duration is 3-4 years from filing to issuance (3-4 office actions)
3. Patent issuance
  - If/When claims do not read on **prior art**
  - Still not in the clear, **patent eligibility can be challenged**
4. Maintenance fee period
  - Every 4 years after issuance, each more expensive than the previous
  - **Rest of world has yearly annuities, starting during prosecution**
5. Expiration (20 years from filing date)



# How to overcome a rejection

- **Amend the claims:** Amending the claims will narrow the scope of the invention so it no longer reads on the prior art.
  - This is the most direct way of dealing with an office action. However, this results in narrowing of the claims, and thus less patent coverage.
  - Once claims are narrowed during prosecution, an Applicant can't regain the patent coverage lost by making those amendments (Prosecution History Estoppel).
- **Arguments by attorney:** Arguments can be used to overcome a rejection, such as disqualifying the prior art (the cited art has a later priority date than the invention), arguing that the art cited is improper, or that the art does not teach what the Examiner claims it teaches.
  - Point out how the invention differs from the prior art
  - Point out the prior art does not in fact teach what the Examiner claims it teaches
- **Submit evidence:** Arguments hold more weight if it is supported by evidence to back up the arguments.
  - For example, submitting a publication or a declaration from the inventor or colleague that qualifies as a person of ordinary skill in the art. The burden of proof will shift to the Examiner if the argument is supported by evidence.

# Ways to show non-obviousness

- **Commercial success**- showing commercial success of your product.
- **Large, unmet need**- there is a large, unmet need for a solution to a problem that nobody has been able to solve, and your invention solves it.
- **Unexpected results**- showing that your invention is superior to what is known in the art. This is best done by pointing to results in the application, submitting a reference (e.g. later publication by the inventors or others) that shows superior, unexpected results. This would have to be more than an added effect, for example, if combining two known drugs, combination of the two would have to have far better results than an expected additive effect. If possible, compare your invention side by side with the cited art invention to show your invention is superior.
- **Failures of others**: Many have tried but failed to address the problem. Additionally, think about your own failures in coming up with the invention and how you overcame them. This could help show the Examiner you provided an inventive concept.
- **Teaching away from the invention**: The cited art itself, or submitted evidence, teaches away from the invention. For example, a publication that states a particular inventive concept would not work can be submitted to overcome an obviousness rejection.
- **Why one of ordinary skill in the art would not have known to combine the references**: The applicants can submit a declaration from one of ordinary skill in the art, stating it was not obvious to one of skill in the art. Alternatively, the applicants can point out all the steps, the work, and the challenges that went into coming up with the invention.

# Prior Art Searching

# Benefits of Conducting Prior Art Search

- Avoid submitting patent application with claims that are not patentable
- Determining novelty of invention compared to prior art
- Develop strong claim strategy before you file patent
- Know close prior art when filing to guide patent drafting
- Understand how your technology fits into technological field
- Be better prepared to discuss invention with attorney and better explain patentable aspects
- Freedom to Operate and knowing competition

# Key points of doing novelty search

- Understanding the invention
  - Structure-function, how elements interact with each other
  - What commercial product you would be selling
  - Alternative Embodiments
- Search terms
  - Multiple variations/order/synonyms/plural/singular, etc.
  - Evolve the terms based on the result of prior searches
- Search multiple sources
  - Patent databases
  - Scholarly articles
  - General web based search

# Understand the Invention

- What is the problem? What is the solution?
  - The problem solved and the solution to the problem could be useful in prior art searching, classification searches
- What is main idea behind your technology?
- Why is it necessary?
- What was already existing prior to this and what were their shortcomings?
- How does it work?
- Find all areas where the invention could be useful
- Other ways of doing what the invention does?

# What is the invention?

- **A composition**
  - e.g. Novel compound never made before, novel mixture of compounds
- **A method or process**
  - e.g. method of treating, method of making, method of using a composition for a particular purpose
- **A machine or device**
  - e.g a motor, a handheld device, etc.
- **An apparatus**
  - A physical product, relatively simpler than machine, few or no moving parts
    - e.g. crutches, pencil, chair

# Components of the Invention

- If device/apparatus, what are the components of the device, what are they made of, how do they interact with each other, what function do they perform
- If method claim, what are the steps
- Gives you better terms to perform prior art search.
  - **If you don't know your property lines, how can you know if your property invades another person's property**
  - You can't do a good search if you don't have a good idea what the invention is and how to describe it
- Examiner searching is based on the claims, having an idea of what the inventions is and elements of the invention (claim) help provide better search terms

# Structure vs Function

- What the invention does (function) and what it is made of (structure) are both important but for different reasons
  - **Structure**- will form basis of your claims, describing your device/composition/apparatus.
  - **Function**-what the invention does, more fitting for method claims, or supporting structure claims to distinguish it from any prior art
- For marketing/business considerations, what the invention does is important
  - Additionally, what the invention does could be useful during patent prosecution to distinguish over prior art
- For patents, structural elements of the invention are more important and form basis of the claims
  - The structural elements describes what the invention really is, will make up the basis of the patent claims, and is what you want to search for to look for prior art.

# Invention outlines

- What are the components/elements of the invention?
  - A chair with 3 legs, a seat and a back
- How are the components arranged with respect to each other?
  - The legs are attached to the underside of the seat and held together by nails
- Can you think of a more generic term to describe a component?
  - Instead of nails, can use fastener or connector
- Are some components necessary or optional?
  - The back on the chair can be optional
- What are some alternative embodiments?
  - The chair can have more than 3 legs
  - Screws, glue, staples can be used instead of nails



# Invention Outline for a 3 legged Chair



- A apparatus for sitting
  - A seat
    - Made of wood
      - Limit to the material?
    - Limit to size and shape?
  - 3 legs
    - Can there be more or less legs?
  - A back
    - Is the back necessary? Could be optional
- Held together by a connector
  - Nail- what else could be used?

# Claims for a 3 legged Chair



- 1. A chair comprising at least three legs and a seat, held together with at least one connector.
- 2. The chair of claim 1, further comprising a back.
- 3. The chair of claim 1, further comprising a fourth leg.
- 4. The chair of claim 1, wherein the at least one connector comprises a nail.
- 5. The chair of claim 1 wherein the at least one connector comprises a screw.
- 6. The chair of claim 4, wherein the screw is at least 1 inch long.
- 7. A chair comprising a wooden frame supporting a seat and a back.

# Approach to Invention Outlines

- **Start Broad:** What are the minimal required parts or steps?
  - Slowly add more parts/steps (claim limitations) to narrow down on exact embodiment.
- **Alternative- Start narrow** At the very least, should have a broad idea of invention and a narrow idea of the specific embodiment, and think about what some alternatives could be. **Good to do both, look at exact embodiment as well as thinking broader**
- Benefits
  - can help **guide prior art search parameters** for screening,
  - Helps you identify areas where there may be alternate embodiments (e.g. for pencil, what other substances but lead and graphite could be used)
- Good to combine what you envision is the **potential commercial embodiment (what is going to be sold?)**

# Resources for Prior Art Search

- Google Patents, Google Scholar
  - Negative- they sell your search information to other parties
  - PDFs of most patents, links to scholarly article (subscription may be required)
- Duck Duck Go
  - Do not sell search information
- Pubmed ( )
  - Medical related publication search, access to article limited to subscribers (University members)
- USPTO website (<https://patft.uspto.gov/>)
- WIPO website ( )
- EspaceNet-
- Paid Subscription databases

# Website Demonstration

- ❖ Google Patents
  - Good to get PDF of patent applications/publications, or full patent text
  - US8783275
- ❖ USPTO Patent PAIR
- ❖ Espacenet
- ❖ WIPO
- ❖ Patsnap

# Patent Search Basis

- Key String- combination of several keywords
  - Picking the right keywords is the key
  - Use of operators “And” “or” or others depending on the database using
- Assignee/Inventor
- Patent Classification
  - Search based on hierarchical system that classifies a patent according to area of technology it falls into (US, European, International, and Cooperative Patent Classification)
- Citation
  - References cited by applicant or examiner during prosecution.
  - Can be Forward/Backward citations- helps identify relevant patents/references
- Dates

# Prior Art Searching

- Start Narrow, then move to broader
  - Limited keywords, the exact embodiment you currently have
  - Read some patents/publications you have found and start creating library of keywords, phrases and general concepts
  - If you find art directly on your invention in the narrow embodiments no need to search broader
- Think about how names for products may have changed over time
- If find a highly relevant prior art patent, access its file wrapper via USPTO Public PAIR
  - 
  - Any published patent you can look at entire prosecution history
    - Could help identified other art cited against that patent

# Keywords Tips

- Be aware of vague or inconsistent terms
  - Toy, process of use
- Obsolete names
  - LP, Hi-Fi, Laser Disc, etc
- Different meanings in different fields
  - Mouse the animal or computer mouse
- Synonyms
  - Think about other ways to describe terms
  - Hyphenation, no hyphenation
  - Different tenses
- British spelling differences
  - Color v colour, tyre v tire
- Possible spelling errors
  - Repellant v repellent, three-wheeled v tri-wheeled
- Acronyms and abbreviations
  - LED- light emitting diode
  - Compounds- search brand name, short hand name, full chemical names
  - Genes or proteins- search both short hand and full name
    - E.g. TNF alpha- Tumor Necrosis Factor Alpha
- Utilize technical dictionary or thesaurus to help find appropriate terms

# Keywords for Prior Art Searching

- Example- smartphone
  - Keywords- Cellular Phone, Mobile phone, Smartphone...may not find everything
    - Additional keywords- handheld device, portable communication device, portable communication terminal, wireless communication device
      - These terms more likely used in patents
- Break invention down into different parts
  - Purpose of invention
    - Wireless communication
  - Functionality of invention
    - How a feature functions, broken down into different subparts
  - Related Application Areas
    - Where else is a feature of a smartphone used for other than basic functionalities
  - Composition
    - What is needed to make invention? How are components arranged

# Classification Search

- Worldwide Classification Systems
  - USPC (USPTO), IPC, ECLA (EPO), FI (Japan), CPC (USPTO/EPO)
  - Divides areas in subdivisions, CPC has the most 200K
- CPC divided into eight main areas
  - A. Human Necessities
  - B. Performing Operations
  - C. Chemistry and Metallurgy
  - D. Textiles and Paper
  - E. Fixed Construction
  - F. Mechanical Engineering, Lighting, Heating, Weapons, Blasting, Engines, Pumps
  - G. Physics
  - H. Electricity

# Classification Search example

- Umbrella with new rib design to eliminate umbrella collapsing or inverting due to high winds
- Improvement to eliminate need for frequent replacement of umbrellas
- Components- framework with ribs, stretches and a main frame, securing rings, mounting brackets, joint connectors, fabric connectors, fabric linkage bar
- Keywords- umbrella, parasol, sunshade, windproof, wind resistant
  - Ex. Umbrella OR parasol OR sunshade AND (windproof or wind resistant)



# CPC Schema

- Go to USPTO website <https://www.uspto.gov>, then type term in box upper right



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umbrella



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**CPC Scheme - A45B WALKING STICKS ; UMBRELLAS; LADIES' OR LIKE FANS**<https://www.uspto.gov/web/patents/classification/cpc/html/cpc-A45B.html>...persons A61H 3/06); **UMBRELLAS**; LADIES' OR LIKE FANS (cane or **umbrella** stands or holders...indicated: "**umbrellas**" also covers sunshades similar in ...**CPC Definition - A45B WALKING STICKS (walking aids, e.g. sticks, for blind persons A61H3/06); UM...**<https://www.uspto.gov/web/patents/classification/cpc/html/defA45B.html>...persons A61H 3/06); **UMBRELLAS**; LADIES' OR LIKE FANS (cane or **umbrella** stands or holders...covers walking sticks and sticks for **umbrellas**, including ...**Seven Step Strategy | USPTO**<https://www.uspto.gov/learning-and-resources/support-centers/patent-and-trademark-resource-centers-ptrc...>...patents related to **umbrellas**, you would enter "**umbrella**". The default search**CPC Scheme - A47C CHAIRS ; SOFAS; BEDS**<https://www.uspto.gov/web/patents/classification/cpc/html/cpc-A47C.html>...side to side and front to back, e.g. **umbrella** type} [2013-01] A47C 4/30 . . Attachment...weather [2022-01] A47C 7/664 . . . {of **umbrella** type} ...**CPC Scheme - A47G HOUSEHOLD OR TABLE EQUIPMENT**<https://www.uspto.gov/web/patents/classification/cpc/html/cpc-A47G.html>...comprising a hole or slit for an **umbrella**} [2014-09] A47G 11/006 . . {Multi-part...with wearing apparel; Dress, hat or **umbrella** holders (wardrobes ...**CPC Scheme - A HUMAN NECESSITIES**<https://www.uspto.gov/web/patents/classification/cpc/html/cpc-A.html>...persons A61H 3/06); **UMBRELLAS**; LADIES' OR LIKE FANS (cane or **umbrella** stands or holders...indicated: "**umbrellas**" also covers sunshades similar in ...**Class Definition for Class D03 - TRAVEL GOODS AND PERSONAL BELONGINGS**<https://www.uspto.gov/web/patents/classification/uspcd03/defsd03.htm>...1. Hand-held fans and elements 2. **Umbrella**, parasols, canes, and crutches 3....applied ornamentation or form. 5 **UMBRELLA** OR PARASOL, WALKING SUPPORT ...**CPC Scheme - A47B TABLES; DESKS; OFFICE FURNITURE; CABINETS; DRAWERS; GENERAL DETAILS OF FURNITURE**<https://www.uspto.gov/web/patents/classification/cpc/html/cpc-A47B.html>

Lookup Symbol

e.g. A23F 5/04

Scheme

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Scheme

CPC-to-IPC

Definition

Compilation of Changes

	A45B 2023/0073	. . {the support arm being rotatable about a vertical axis for adjusting the position}
	A45B 2023/0081	. . {the support arm being rotatable about a horizontal axis for adjusting the position}
	A45B 2023/0087	. {having a planar opening movement wherein the struts or screen sheet rotate and spread around an axis, e.g. around the stick}
	A45B 2023/0093	. {Sunshades or weather protections of other than umbrella type}
<b>D</b>	<b>- A45B 25/00</b>	<b>Details of umbrellas</b> (sticks for umbrellas A45B 1/00 - A45B 9/00; illuminating devices for umbrellas A45B 3/02; {sockets or holders for poles or posts E04H 12/22})
	A45B 2025/003	. {Accessories not covered by groups A45B 25/24 - A45B 25/30}
<b>D</b>	A45B 25/006	. {Automatic closing devices (A45B 25/143 takes precedence)}
<b>D</b>	<b>- A45B 25/02</b>	. Umbrella frames
<b>D</b>	A45B 25/04	. . Devices for making or repairing
<b>D</b>	<b>- A45B 25/06</b>	. Umbrella runners
<b>D</b>	A45B 25/08	. . Devices for fastening or locking
<b>D</b>	<b>- A45B 25/10</b>	. Umbrella crowns {(A45B 25/06 takes precedence)}
	A45B 2025/105	. . {movable with respect to the shaft}
<b>D</b>	A45B 25/12	. Devices for holding umbrellas closed, e.g. magnetic devices
<b>D</b>	<b>- A45B 25/14</b>	. Devices for opening and for closing umbrellas
<b>D</b>	A45B 25/143	. . {automatic}
	A45B 2025/146	. . {with a crank connected to a rope}
<b>D</b>	<b>- A45B 25/16</b>	. Automatic openers, e.g. frames with spring mechanisms {(A45B 25/143 takes precedence)}
<b>D</b>	A45B 25/165	. . {with fluid or electric actuators}
<b>D</b>	<b>- A45B 25/18</b>	. Covers (detachable A45B 15/00); Means for fastening same
	A45B 2025/183	. . {Covers with filtering or screening means for avoiding undesired radiation}
	A45B 2025/186	. . {Umbrellas with two or more covers}
<b>D</b>	A45B 25/20	. . Windows in covers
<b>D</b>	A45B 25/22	. Devices for increasing the resistance of umbrellas to wind
<b>D</b>	<b>- A45B 25/24</b>	. Protective coverings for umbrellas when closed
<b>D</b>	A45B 25/26	. . Ventilated coverings
<b>D</b>	A45B 25/28	. Drip receptacles for umbrellas; Attaching devices therefor
<b>D</b>	A45B 25/30	. Name-plates; Badges; Labelling or marking devices; Means for attaching same (attached to the umbrella stick A45B 9/06)
<b>D</b>	<b>- A45B 27/00</b>	<b>Ladies' or like fans</b>
<b>D</b>	A45B 27/02	. with mechanical hand-drive